

10. *ABUTILON HAENKEANUM* Presl, Rel. Haenk. 2:115. 1835. TYPE: In terris mexicanus occidentalibus, *Haenke s.n.* Holotype: PR!; iso-types: MO!, W, as photo F!.

Sida presliana D. Dietr., Syn. Pl. 4:856. 1847 [based on *A. haenkeanum*].

DISTRIBUTION: In western Mexico from Sinaloa to Guerrero, at elevations up to 450 m.

This species and *A. andrieuxii* are distinctive for their orange, reflexed petals with minute external pubescence and for their very short filaments, 1.0–1.5 mm long. The characters distinguishing *A. haenkeanum* and *A. andrieuxii* are given in the key (cf. figs. 5, C and 5, E).

REPRESENTATIVE SPECIMENS: Sinaloa, *Gentry 5644* (DES, MICH, NA). Colima, *Fryxell 1049* (BH, MEXU, MICH, US, pf), *1054* (CTES, MICH, NY, pf). Michoacán, *McVaugh 22604* (ENCB), *Fryxell 1716* (ASU, SMU, SD, pf), *Hinton 16214* (TEX). Guerrero, *Paray 1829* (ENCB), *Hinton 11783* (TEX).

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A NEW SPECIES OF TRIFOLIUM (LEGUMINOSAE) FROM BAJA CALIFORNIA, MEXICO

JOHN M. GILLET

National Museum of Natural Sciences
Botany Division, Ottawa, Ontario, K1A 0M8

Currently, my interest in *Trifolium* centers about sect. *Involucrarium* Hooker. Among material from Baja California, the following taxon, which is evidently new, has come to light. The plant was first collected by I. L. Wiggins and D. Demaree in 1930 but has been collected several times since. I take great pleasure in naming this clover after Dr. Wiggins because of his great interest in the region.

The peninsula of Baja California is well known for its high incidence of endemism (Shreve and Wiggins, 1964), so it is not altogether surprising that a new clover should be found. The stipules of *T. wigginsii* resemble those of *T. variegatum* Nutt. or related species, but the habit and involucral characters resemble those of *T. pinetorum* Greene of Arizona and New Mexico.

Trifolium wigginsii J. M. Gillett, sp. nov. *Trifolium* perenne radicibus palaribus, caulibus prostratis ramosis, stipulis ovatis persistentibus, foliolis obovatis vel cuneatis, capitulis semiglobosis, pedunculis longioribus quam foliis, involucrarium divisio in segmentis oblongis, triaristatis, lobis calycis brevioribus quam tubis.

TYPE: Mexico, Baja California, Sierra San Pedro Martir. Abundant, forming sod in dry meadow west of Vallecitos, 30°00'N, 115°28'W, 2450 m, 23 Aug 1968, *Reid Moran 15400*. Holotype: RSA!; isotype: SD!

Glabrous tap-rooted perennial, tap-root bearing numerous fine roots and a multicapital crown of spreading prostrate stems, 0.5–6.0 dm long, these often branched and when buried often behaving like rhizomes and rooting at the nodes, internodes of well-developed stems 1.5–3.0 cm long. Leaves with three leaflets, petioles 1.2 (0.3–2.0) cm long, overtopped by the heads, petiolules 0.25–0.5 mm long, blades 0.46 (0.2–0.7) cm long, 0.3 (0.15–0.4) cm wide, slender cuneate to obovate, truncate to rounded, or slightly retuse, minutely apiculate, the margins dentate to serrate, the abaxial face with prominent light-colored veins, often bifurcating towards the tips and terminating in the teeth. Stipules 0.4–0.7 cm long, ovate with attenuate tips and somewhat lacerate margins, the pairs united $\frac{1}{3}$ of their length and surrounding the stem, pale green below, darker green above, veiny, later chartaceous and persistent. Inflorescence capituliform, hemispherical, occasionally abruptly turned upwards at the tip of the peduncle, of 10–15 flowers, peduncles 3.6 (1.0–6.0) cm long. Involucre 0.4–0.5 cm high, with 7–9 oblong lobes, cleft to within $\frac{1}{4}$ their length to the base, apex usually with 3 acute to acuminate teeth but sometimes these a trifle irregular and occasionally with 1–2 lateral teeth, veins anastomosing and terminating in the teeth. Flowers in 1–3 whorls, secondary whorls subtended by a mini-involucre of blunt, hyaline, fused bracts, each flower borne on an extremely short pedicel (essentially sessile), the standard, wings, and keel white or lavender towards the tips, or the wings reddish-violet and the keel purplish-violet. Calyx glabrous ca 1 cm long, slightly oblique, the tube 3 mm long, pale green to white with 5 main veins extended into the lobes and 5 smaller sinuate veins uniting with the lateral lobal veins below the rounded to acute sinus, lobes ca 2 mm long, almost equal, subulate and probably green. Standard tubular, elliptic when flattened, 1.2 cm long, 0.4 cm wide, with numerous parallel veins, dichotomising apically, the upper third flared upwards. Wings slightly shorter than the banner, blades 0.5–0.6 cm long, equal to the claw, this lightly united to that of the keel, the vesicular processes inflated; keel 1.5 mm shorter than the wings, the blade



FIG. 1. *Trifolium wigginsii* J. M. Gillett. a, habit; b, late season prostrate stem; c, head; d, involucre; e, calyx; f, standard (flattened); g, wing petal; h, keel petal; i, ovary; j, staminal tube. (a from Moran 15400, SD, RSA; b from Moran 15400, SD, RSA; c-j from Moran and Thorne 14171, RSA.)

oblong, oblique, 3.0–3.5 mm long, often purple-violet. Stamens fused into the staminal tube most of their length, the anthers 0.5 mm long, that of the free stamen similar. Ovary at anthesis ca 3 mm long, glabrous; ovules 2. Somewhat immature fruit oblong, 2 mm long, 1.5 mm wide, containing two slightly flattened seeds.

PARATYPES: All from Mexico, Baja California, Sierra San Pedro Martir. Granitic slope with grassy openings, rocky knolls in a forest of *Pinus jeffreyi*, *P. murrayana*, *Populus tremuloides*, *Quercus*, and *Ceanothus*, near the settlement of Vallecitos in the vicinity of Ensenada, 8000 ft, 21 Sep 1968, *D. E. Breedlove 16359* (CAS); Vallecitos meadow, 1 mi S of road to Observatory, ca 8200 ft, in full sun, open meadow with *Leptodactylon melingii*, *Ivesia aryrocoma*, *Astragalus circumdatus*, and other perennial forbs, several grasses, stems strictly prostrate, the plants forming dense small mats, petals white with faint lavender tinge near the tips of some, 18 Jun 1971, *I. L. Wiggins 21458* (DS); in sandy wash, Vallecito, calyx reddish, banner white, wings red-violet, keel red-purple, near 31°00'N, 115°28'W, ca 2475 m, 9 Aug 1969, *H. V. Witham 369* (RSA,SD); occasional in arroyo, Jeffrey pine forest, Yerba Buena, near 31°00'N, 115°27'W, ca 2500 m, 16 Aug 1967, *R. Moran and R. F. Thorne 14171* (RSA,SD); common in meadow, La Encantada, near 30°55'N, 115°24'W, ca 2200 m, 18 Aug 1967, *R. Moran and R. F. Thorne 14303* (RSA,SD); fairly common, forming mat in wet sand of arroyo, Jeffrey pine forest, Yerba Buena, near 31°00'N, 115°27'W, ca 2500 m, 16 Aug 1967, *R. Moran and R. F. Thorne 14167* (RSA); mid-vegetative stages, small-leaved, to 6 in stems; upper San Jose Creek bottom (water 10–20 ft below sandy bed), 0–3 mi beyond end of road into N end of High Sierra San Pedro Martir, 7200–7700 ft, steep to slightly sloping granite walls, aspen, incense cedar, white fir, *Aquilegia*, etc., and *Holodiscus* but no chaparral, Jeffrey pine forest border, 6 Jul 1962, *J. D. Olmsted 4567* (RSA); dry hillside, upper end of flats, La Encantada, 7250 ft, 22 Sep 1930, *I. L. Wiggins and D. Demaree 4986* (DAO, DS, RSA, US).

I have refrained from selecting *Wiggins and Demaree 4986* as the type even though I am naming the species after Wiggins and in spite of the several replicates, because this collection consists of stem bearing flowers and does not satisfactorily show the distinctive tap root and habit of the plant.

Trifolium worskjoldii Lehm. also is found in La Encantada region (*Wiggins and Demaree 4908*, *Moran 22154*) but is apparently restricted to streams running through a meadow; *T. wigginsii*, however, is a species of dry habitats, occupying dry gravel and hillsides. I should judge that it occupied a very similar habitat to *T. pinetorum* Greene.

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